III. Lifetime and Current Asthma Prevalence

Asthma is one of the most common chronic diseases in adults, and the most common chronic disease in children. About ten million Americans have asthma,[i] including at least 5 million children under age 18.[ii,iii]

Although about 87% of Washington adults have never personally had asthma, a recent national survey suggests that 35% of the population without asthma has at least one household or immediate family member with asthma.[iv] Because good asthma control includes changes in home environments and poor asthma control can substantially affect families in terms of lost time at work or school and healthcare costs, people with household or immediate family members that have asthma are affected by the disease. Therefore, we can say that about half the people in Washington are affected by asthma.

A. Definitions

Information about asthma among adults is collected using Washington's Behavioral Risk Factor Surveillance System (BRFSS), a telephone survey of randomly selected non-institutionalized adults.

The prevalence of asthma among youth is assessed using two methods: youth self-report, as part of the school-based Washington State Healthy Youth Survey (HYS) questionnaire; and proxy reports by parents, collected as part of the BRFSS telephone survey when there are children living in the household.

Both adults and youth are classified in Washington's public health surveys as having "lifetime asthma" (that is, having had asthma during their lifetime) if they report that a doctor has at some time told them they have asthma. This is consistent with national definitions for lifetime asthma.

An adult is classified as having "current" asthma if they report having ever been told by a healthcare professional that they have asthma and also respond "yes" when subsequently asked if they still have asthma.

Unlike adult surveys, which are conducted by telephone, and where adults who report never being told they had asthma by a doctor are "skipped out" from further questions about asthma (including for proxy reports about youth asthma), youth who take Washington's self-administered HYS questionnaire have the opportunity to answer questions about taking asthma medications or having asthma attacks even if they have never been diagnosed by a doctor. Data presented later in this chapter indicate that more youth report having asthma attacks or taking medication than have ever been told they have asthma by a doctor. This inconsistency could be the result of youth not understanding the question or misunderstanding about what is meant by an "asthma attack" or "asthma medications". It could also be the result of real asthma among youth that is undiagnosed by a doctor.

With the assumption that most of the reporting inconsistency was related to inaccurate over-reporting of past-year medication or asthma attack, a two-stage definition for current asthma among youth was applied that required having been told by a doctor and having at least one attack or taking asthma medications during the previous year. This approach is consistent with the definition used for adults (who are asked "do you still have asthma?" which would logically be conditional upon either still having symptoms or taking treatment for asthma). In fact this method brought estimates for oldest youth to similar levels as adults.

Presentation of "current asthma" among youth for the remainder of this report uses the two-stage definition just described.

B. Asthma Onset

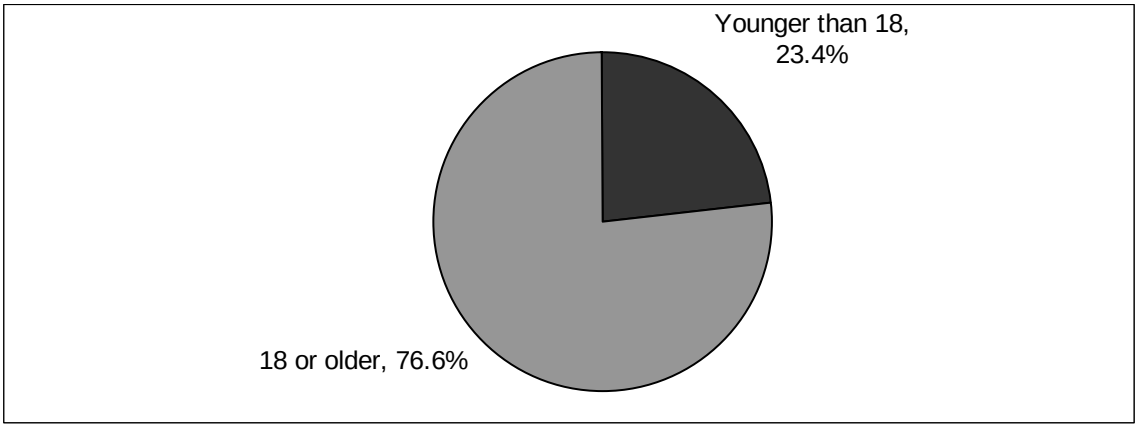
Asthma onset can occur anytime in life. Asthma among youth often begins in early childhood; more than 50% of children with persistent asthma develop symptoms prior to 3 years of age, and 80% develop symptoms prior to age 6.[v]

An estimated 30 to 50 percent of children with asthma (particularly males) appear to "outgrow" asthma at puberty, but often asthma may reappear in later life. Although these children may be asymptomatic (potentially classified as "lifetime" but not "current" asthma), their lung function may be permanently affected. Between 5 and 10 percent of children with asthma that is not considered serious progress to having severe asthma in later life.**Error! Bookmark not defined.**

Among adults who have ever been diagnosed with asthma, only one in four reported being first diagnosed with asthma during childhood (see Figure 19), indicating that onset of new asthma during adulthood is substantial. It is possible that some Washington adults were in fact diagnosed with asthma during early childhood (or had undiagnosed asthma in childhood) but "outgrew" the condition and that these same people over time may not recall having had the condition or even conclude that they never really had it.

New-onset asthma in adults with airway obstruction and a history of smoking must be differentiated from chronic obstructive pulmonary disease (COPD). COPD includes emphysema and chronic bronchitis, which are airway obstructions due to lung damage typically associated with smoking.

Figure 1: Age at diagnosis of asthma, among Washington adults



Source: 2001 Washington State Behavioral Risk Factor Surveillance System (BRFSS)

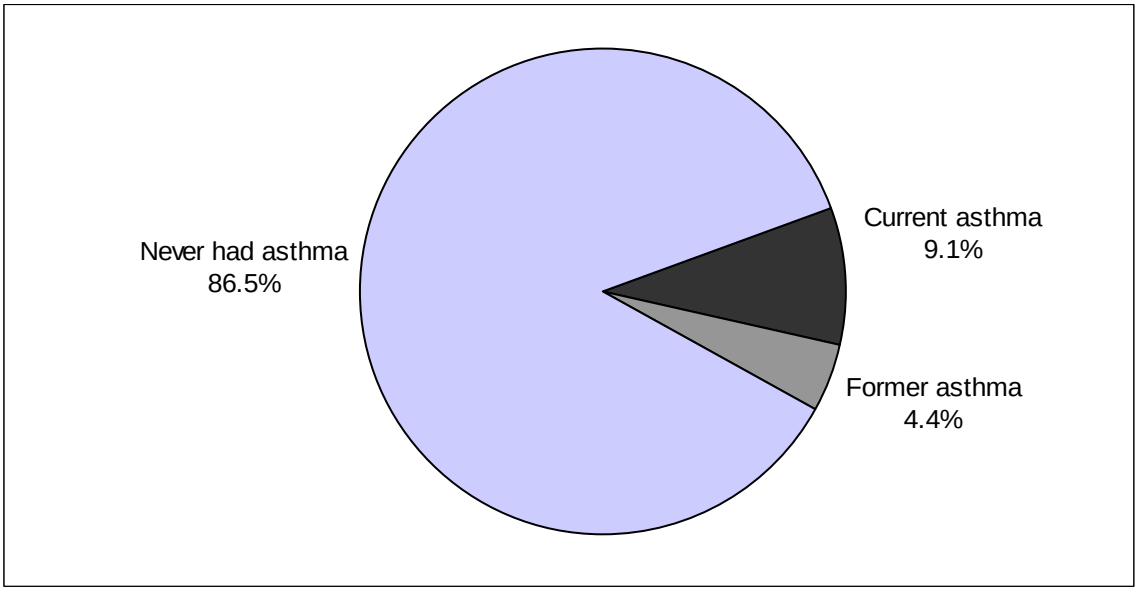
Both lifetime and current asthma prevalence may be useful measures for understanding the burden of asthma among adults and youth, although current prevalence demands the most attention in either group.

C. Adult Prevalence

More than one in ten Washington adults (13.5%) has been told by a health professional at some point during their lifetime that they have asthma. Nationally, 11% of adults had ever been told they had asthma. [vi]

About two-thirds of Washington adults who have had asthma during their lifetime report still having asthma (see Figure 20). The prevalence of current asthma among adults in Washington was 9.1% in 2003. This translates into nearly 400,000 Washington adults with asthma (see table in appendix D for state and county-level estimates).

Figure 2: Prevalence of lifetime and current asthma among Washington adults



Source: 2003 Washington State Behavioral Risk Factor Surveillance System (BRFSS)

D. Youth Prevalence

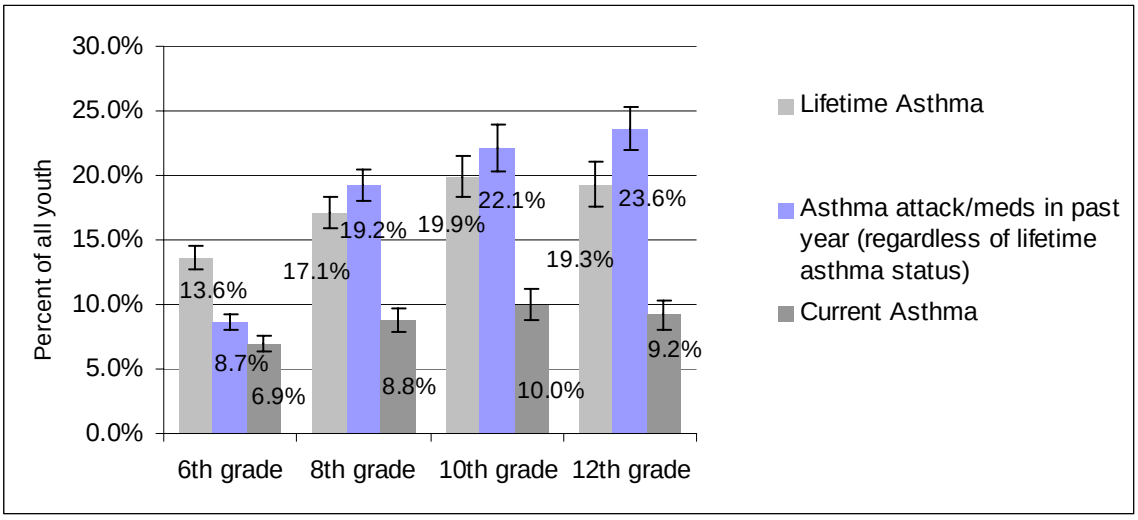
Youth self-report

Older youth were more likely than younger youth to report having been told by a doctor they have asthma (lifetime asthma). Just over one in ten sixth graders and about one in five high school students reported lifetime asthma.

About half of those youth who said they had ever been told by a doctor they have asthma also reported that they still take medication or had an asthma attack during the previous year, which is consistent with adult patterns and adult proxy reports. However, about one in ten youth who had never been told by a doctor they have asthma also reported that they did take asthma medication or had an asthma attack during the previous year. This explains the greater prevalence of reported previous year asthma medications/attacks for 8th, 10th and 12th graders in comparison to lifetime asthma (see Figure 21).

About 9-10% of 8th, 10th, and 12th graders reported currently having asthma, and 7% of 6th graders were classified as currently having asthma, based on both having been at some time diagnosed by a doctor and having asthma symptoms or treatment during the past year (see Figure 21).

Figure 3: Prevalence of lifetime and current Asthma by grade, among Washington youth (youth self-reported)



Source: 2004 Washington State Healthy Youth Survey (HYS)

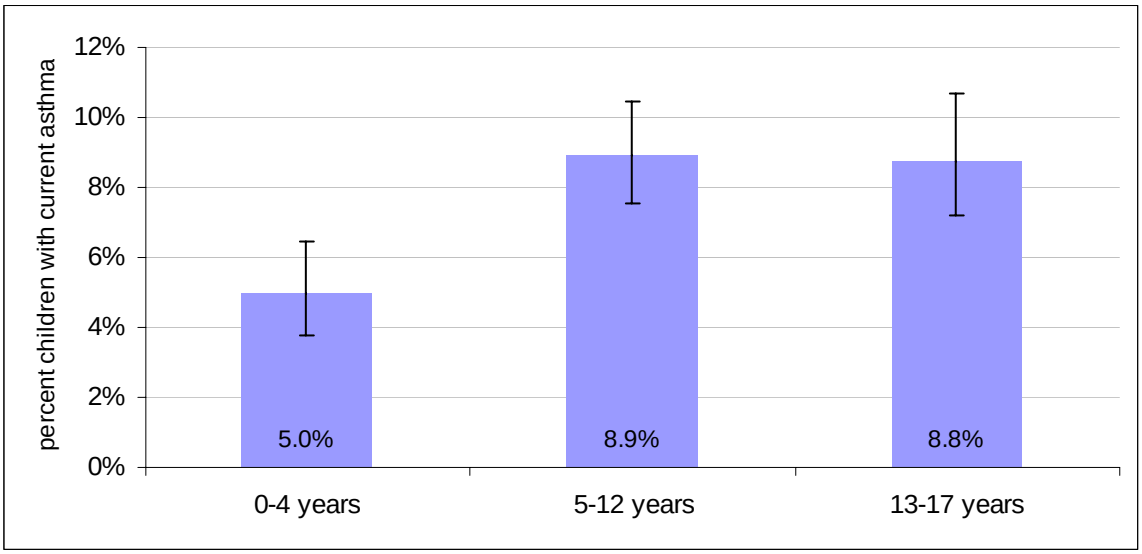
Parent/adult proxy reports of childhood asthma

About 17% of Washington adults who live in households with children indicated that at least one child had been diagnosed with asthma during his/her lifetime. This suggests that one in five families has one or more children affected by asthma.

Parent/adult proxy reports about current asthma among children are similar to those from the HYS using that two-stage definition described previously. Parents reported about 9% prevalence of current asthma for both 5-12 year olds and 13-17 year olds, respectively, and about 5% prevalence for children younger than five.

Using an average value of 8% current asthma for all youth ages 0-17 (calculated from the age-group specific prevalence estimates from parents), we can estimate that more than 120,000 children in Washington currently have asthma (see Appendix D for population estimates and county-level estimates). This combined estimate for youth in Washington is similar to national prevalence estimates of 8-9%.[iv,vii]

Figure 4: Prevalence of current asthma among Washington children and youth (parent/adult proxy-reported)



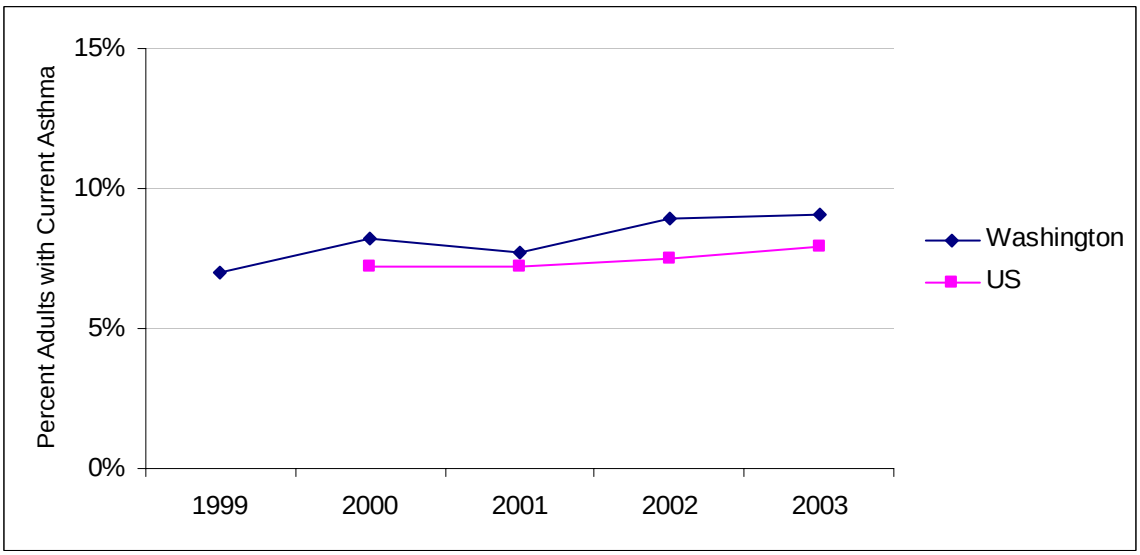
Source: 1999 and 2000 combined Behavioral Risk Factor Surveillance System, parent (proxy) reports for child asthma prevalence

E. Trends in Current Asthma Prevalence

Adults

Washington's prevalence of current asthma among adults is greater than the national prevalence (see Figure 23) and has been reported as one of the highest in the nation.[viii] The prevalence of asthma has increased ($p<.05$) by about 30% among Washington adults in recent years, from 7.0% in 1999 to 9.1% in 2003.

Figure 5: Trends for current asthma among Washington State and US adults

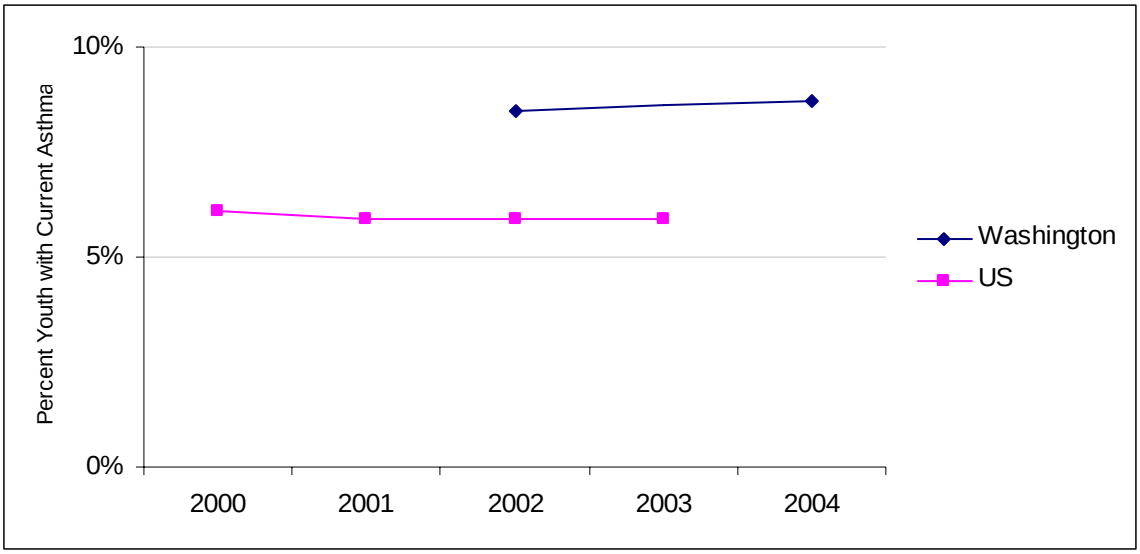


Source: 1999-2003 Washington State Behavioral Risk Factor Surveillance System (BRFSS), National BRFSS median

Youth self-report

As seen among adults, Washington's youth have a higher prevalence of asthma in comparison to the nation. For our most recent year of data (2004), 8.7% of Washington middle and high-school youth (grade-standardized estimate for 6th, 8th, 10th, and 12th combined) had current asthma in comparison to the most recent national estimate (2003) of 5.9% for 12-17 year olds (see Figure 24). Washington's asthma prevalence change from 8.5% to 8.7% prevalence was not significant.

Figure 6: Trends for current asthma among Washington State and US youth

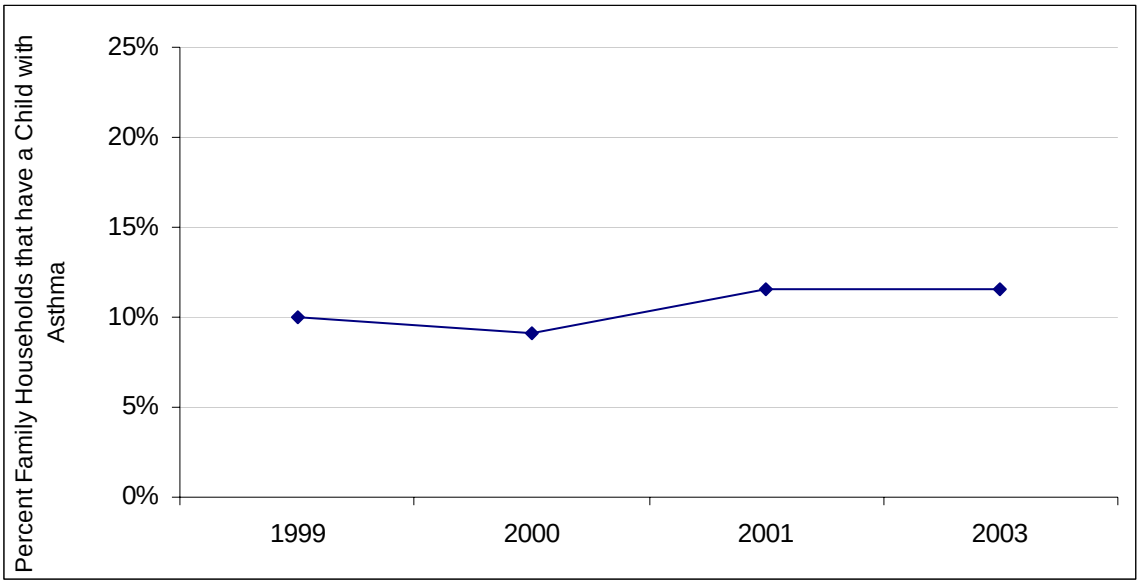


Source: 2002 and 2004 Washington State Healthy Youth Survey, grade-standardized estimate for 6th-12th grades combined; 2000-2003 National Health Interview Survey, youth aged 12-17 combined.

Parent/adult proxy reports

In 2003, about 11.5% of adults in households with children reported that at least one child currently has asthma, which was a fifteen percent proportional increase from 10.0% in 1999 (see Figure 25, $p<.05$).

Figure 7: Trend for Washington households with children who have current asthma, among households with children



Source: 1999, 2000, 2001, 2003 Washington State Behavioral Risk Factor Surveillance System (BRFSS).

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